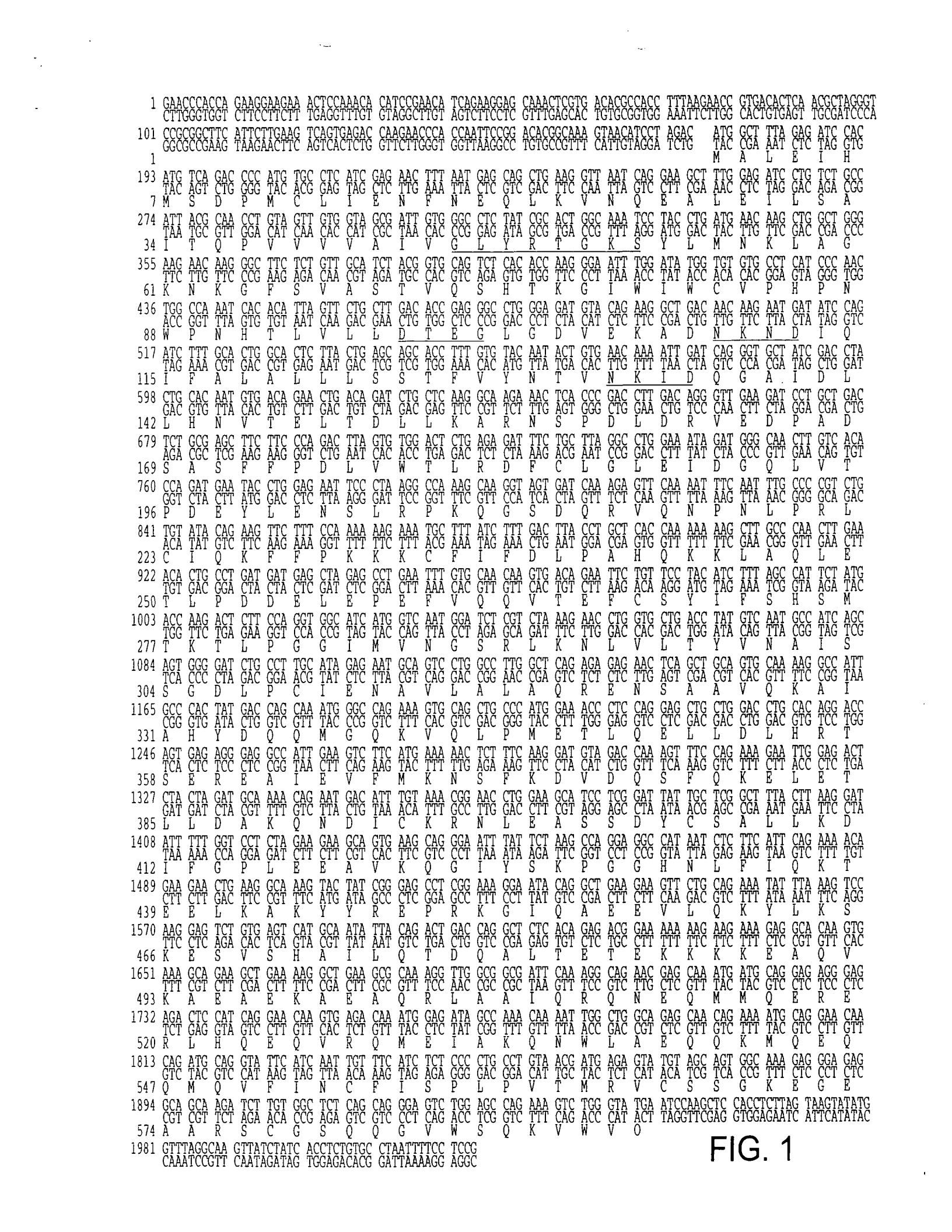
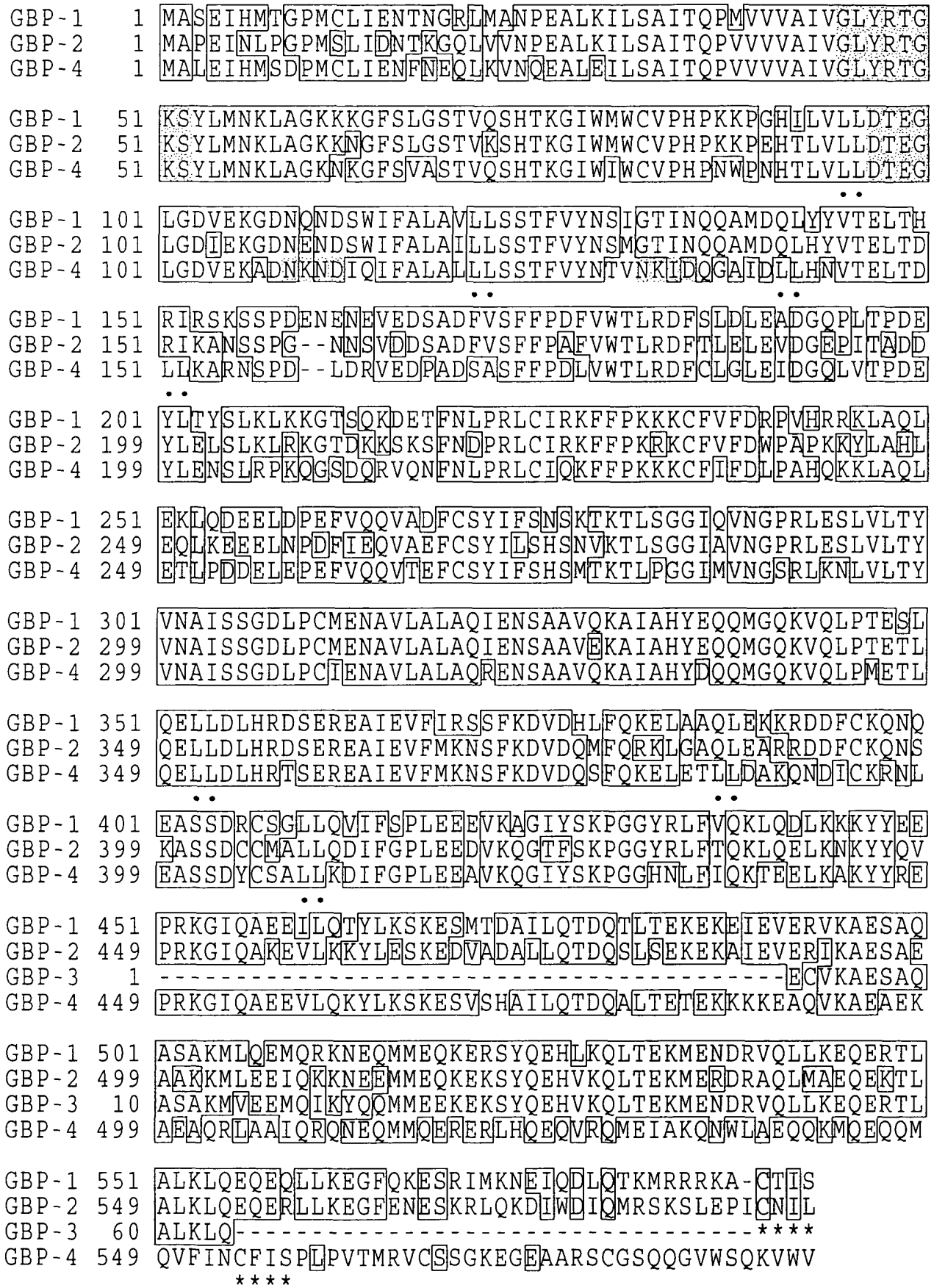


FIG. 1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GBP-4 1 MALEIHMSDPMCLIENFNEQLKVNQEALEILSAITQPVVVVAIVGLYRTG
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GBP-2 51 KSYLMNKLAGKKNGFSLGSTVKSHTKGIWMWCVPHPKKPEHTLVLLDTEG
GBP-4 51 KSYLMNKLAGKNKGFSVASTVQSHTKGIWIWCVPHPNWPNHTLVLLDTEG
GBP-1 101 LGDVEKGDNQNDSWIFALAVLLSSTFVYNSIGTINQQAMDQLYYVTELTH
GBP-2 101 LGDIEKGDNENDSWIFALAILLSSTFVYNSMGTINQQAMDQLHYVTELTD
GBP-4 101 LGDVEKADNKNDIQIFALALLLSSTFVYNTVNKIDQGAIDLLHNVTELTD
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GBP-2 151 RIKANSSPG--NNSVDDSADFVSFFPAFVWTLRDFTLELEVDGEPITADD
GBP-4 151 LLKARNSPD--LDRVEDPADSASFFPDLVWTLRDFCLGLEIDGQLVTPDE
GBP-1 201 YLTYSLKLKKGTSQKDETFNLPRLCIRKFFPKKKCFVFDRPVHRRKLAQL
GBP-2 199 YLELSLKLRKGTDKKSKSFNDPRLCIRKFFPKRKCFVFDWPAPKKYLAHL
GBP-4 199 YLENSLRPKQGSDQRVQNFNLPRLCIQKFFPKKKCFIFDLPAHQKKLAQL
GBP-1 251 EKLQDEELDPEFVQQVADFCSYIFSNSKTKTLSGGIQVNGPRLESLVLTY
GBP-2 249 EQLKEEELNPDFIEQVAEFCSYILSHSNVKTLSGGIAVNGPRLESLVLTY
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GBP-2 299 VNAISSGDLPCMENAVLALAQIENSAAVEKAIAHYEQQMGQKVQLPTETL
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GBP-2 349 QELLDLHRDSEREAIEVFMKNSFKDVDQMFQRKLGAQLEARRDDFCKQNS
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GBP-3 1 ----------ECVKAESAQ
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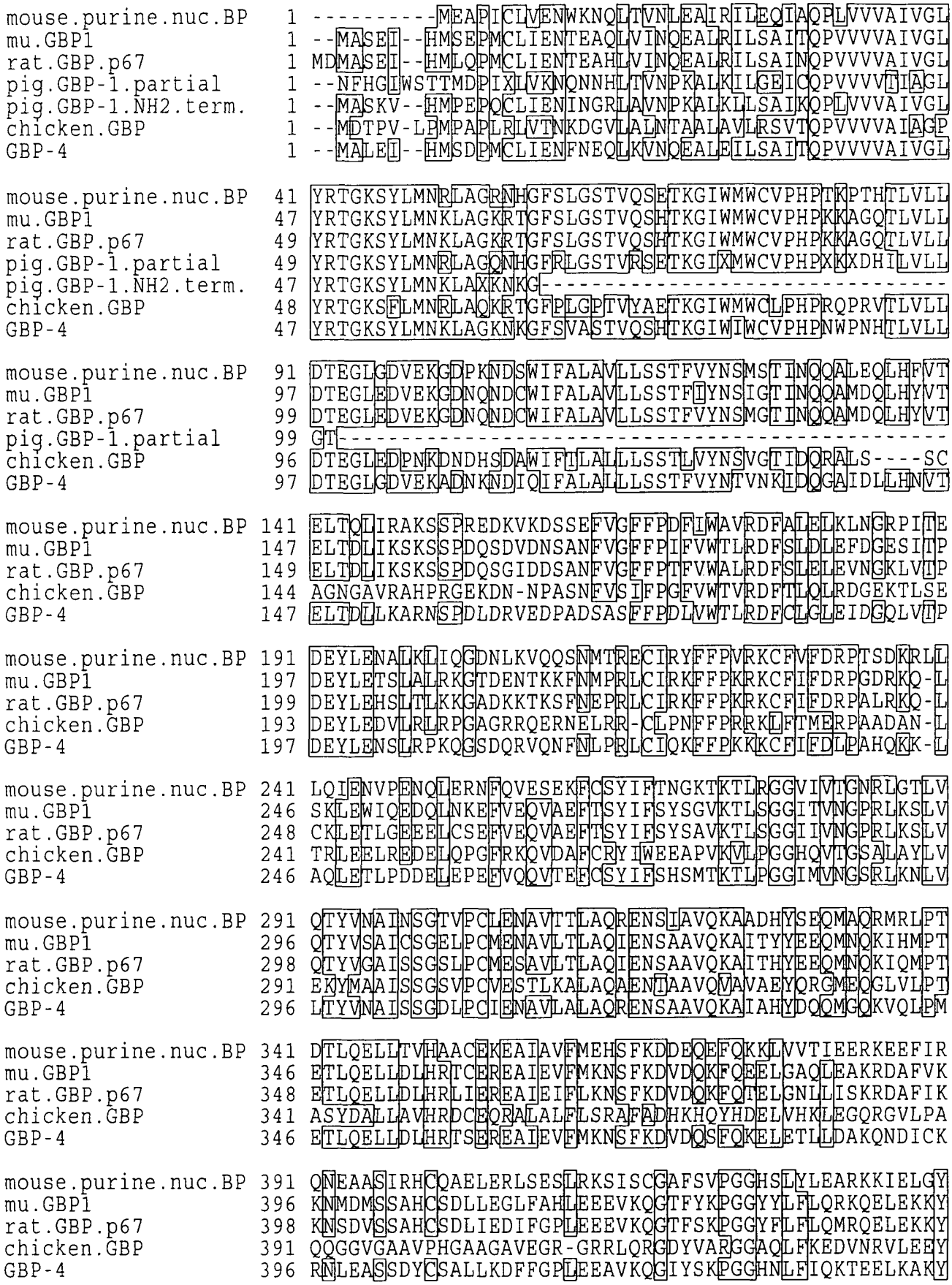
FIG. 2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rat.GBP.p67 1 MDMASEI--HMLQPMCLIENTEAHLVINQEALRILSAINQPVVVVAIVGL
pig.GBP-1.partial 1 --NFHGIWSTTMDPIXLVKNQNNHLTVNPKALKILGEICQPVVVVTIAGL
pig.GBP-1.NH2.term. 1 --MASKV--HMPEPQCLIENINGRLAVNPKALKLLSAIKQPLVVVAIVGL
chicken.GBP 1 --MDTPV-LPMPAPLRLVTNKDGVLALNTAALAVLRSVTQPVVVVAIAGP
GBP-4 1 --MALEI--HMSDPMCLIENFNEQLKVNQEALEILSAITQPVVVVAIVGL
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mu.GBP1 47 YRTGKSYLMNKLAGKRTGFSLGSTVQSHTKGIWMWCVPHPKKAGQTLVLL
rat.GBP.p67 49 YRTGKSYLMNKLAGKRTGFSLGSTVQSHTKGIWMWCVPHPKKAGQTLVLL
pig.GBP-1.partial 49 YRTGKSYLMNRLAGQNHGFRLGSTVRSETKGIXMWCVPHPXKXDHILVLL
pig.GBP-1.NH2.term. 47 YRTGKSYLMNKLAXKNKG----------
chicken.GBP 48 YRTGKSFLMNRLAQKRTGFPLGPTVYAETKGIWMWCLPHPRQPRVTLVLL
GBP-4 47 YRTGKSYLMNKLAGKNKGFSVASTVQSHTKGIWIWCVPHPNWPNHTLVLL
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mu.GBP1 97 DTEGLEDVEKGDNQNDCWIFALAVLLSSTFIYNSIGTINQQAMDQLHYVT
rat.GBP.p67 99 DTEGLEDVEKGDNQNDCWIFALAVLLSSTFVYNSMGTINQQAMDQLHYVT
pig.GBP-1.partial 99 GT----------
chicken.GBP 96 DTEGLEDPNKDNDHSDAWIFTLALLLSSTLVYNSVGTIDQRALS----SC
GBP-4 97 DTEGLGDVEKADNKNDIQIFALALLLSSTFVYNTVNKIDQGAIDLLHNVT
mouse.purine.nuc.BP 141 ELTQLIRAKSSPREDKVKDSSEFVGFFPDFIWAVRDFALELKLNGRPITE
mu.GBP1 147 ELTDLIKSKSSPDQSDVDNSANFVGFFPIFVWTLRDFSLDLEFDGESITP
rat.GBP.p67 149 ELTDLIKSKSSPDQSGIDDSANFVGFFPTFVWALRDFSLELEVNGKLVTP
chicken.GBP 144 AGNGAVRAHPRGEKDN-NPASNFVSIFPGFVWTVRDFTLQLRDGEKTLSE
GBP-4 147 ELTDLLKARNSPDLDRVEDPADSASFFPDLVWTLRDFCLGLEIDGQLVTP
mouse.purine.nuc.BP 191 DEYLENALKLIQGDNLKVQQSNMTRECIRYFFPVRKCFVFDRPTSDKRLL
mu.GBP1 197 DEYLETSLALRKGTDENTKKFNMPRLCIRKFFPKRKCFIFDRPGDRKQ-L
rat.GBP.p67 199 DEYLEHSLTLKKGADKKTKSFNEPRLCIRKFFPKRKCFIFDRPALRKQ-L
chicken.GBP 193 DEYLEDVLRLRPGAGRRQERNELRR-CLPNFFPRRKLFTMERPAADAN-L
GBP-4 197 DEYLENSLRPKQGSDQRVQNFNLPRLCIQKFFPKKKCFIFDLPAHQKK-L
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mu.GBP1 246 SKLEWIQEDQLNKEFVEQVAEFTSYIFSYSGVKTLSGGITVNGPRLKSLV
rat.GBP.p67 248 CKLETLGEEELCSEFVEQVAEFTSYIFSYSAVKTLSGGIIVNGPRLKSLV
chicken.GBP 241 TRLEELREDELQPGFRKQVDAFCRYIWEEAPVKVLPGGHQVTGSALAYLV
GBP-4 246 AQLETLPDDELEPEFVQQVTEFCSYIFSHSMTKTLPGGIMVNGSRLKNLV
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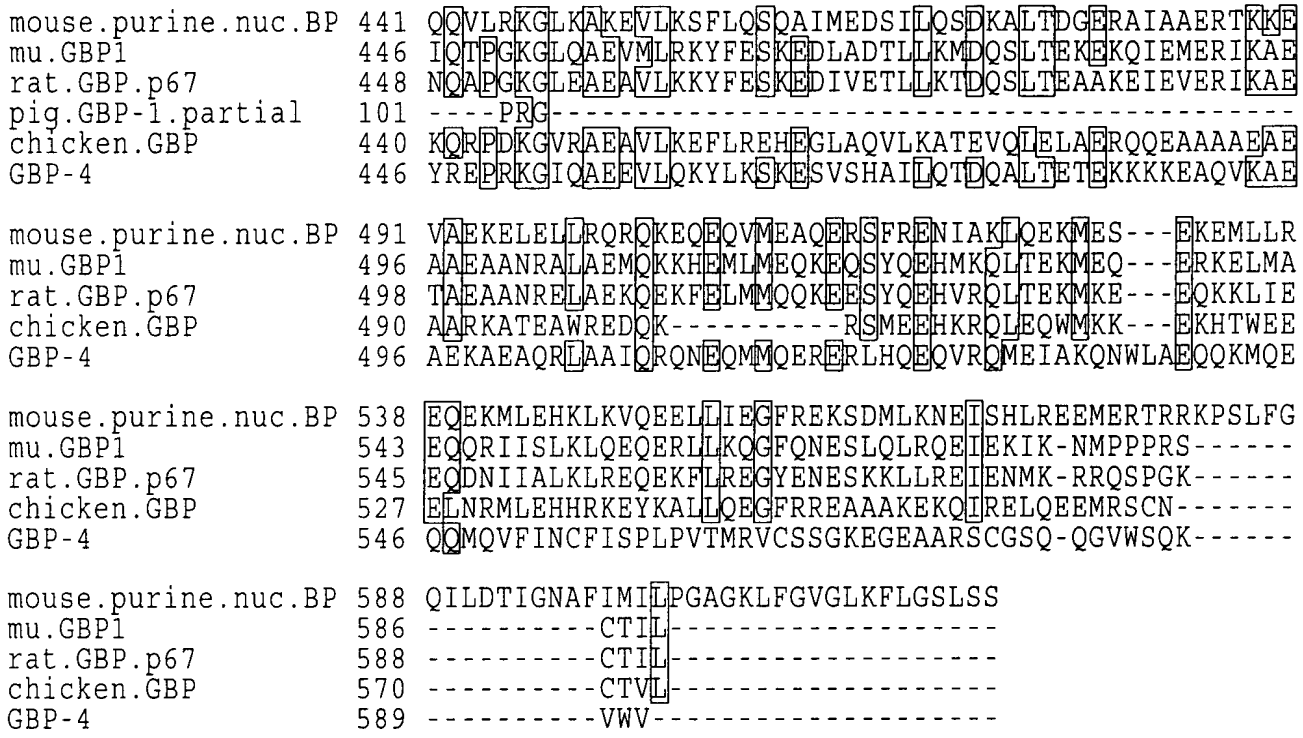
mu.GBP1 296 QTYVSAICSGELPCMENAVLTLAQIENSAAVQKAITYYEEQMNQKIHMPT
rat.GBP.p67 298 QTYVGAISSGSLPCMESAVLTLAQIENSAAVQKAITHYEEQMNQKIQMPT
chicken.GBP 291 EKYMAAISSGSVPCVESTLKALAQAENIAAVQVAVAEYQRGMEQGLVLPT
GBP-4 296 LTYVNAISSGDLPCIENAVLALAQRENSAAVQKAIAHYDQQMGQKVQLPM
mouse.purine.nuc.BP 341 DTLQELLTVHAACEKEAIAVFMEHSFKDDEQEFQKKLVVTIEERKEEFIR
mu.GBP1 346 ETLQELLDLHRTCEREAIEVFMKNSFKDVDQKFQEELGAQLEAKRDAFVK
rat.GBP.p67 348 ETLQELLDLHRLIEREAIEIFLKNSFKDVDQKFQTELGNLLISKRDAFIK
chicken.GBP 341 ASYDALLAVHRDCEQRALALFLSRAFADHKHQYHDELVHKLEGQRGVLPA
GBP-4 346 ETLQELLDLHRTSEREAIEVFMKNSFKDVDQSFQKELETLLDAKQNDICK
mouse.purine.nuc.BP 391 QNEAASIRHCQAELERLSESLRKSISCGAFSVPGGHSLYLEARKKIELGY
mu.GBP1 396 KNMDMSSAHCSDLLEGLFAHLEEEVKQGTFYKPGGYYLFLQRKQELEKKY
rat.GBP.p67 398 KNSDVSSAHCSDLIEDIFGPLEEEVKQGTFSKPGGYFLFLQMRQELEKKY
chicken.GBP 391 QQGGVGAAVPHGAAGAVEGR-GRRLQRGDYVARGGAQLFKEDVNRVLEEY
GBP-4 396 RNLEASSDYCSALLKDFFGPLEEAVKQGIYSKPGGHNLFIQKTEELKAKY

FIG. 3A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mu.GBP1 446 IQTPGKGLQAEVMLRKYFESKEDLADTLLKMDQSLTEKEKQIEMERIKAE
rat.GBP.p67 448 NQAPGKGLEAEAVLKKYFESKEDIVETLLKTDQSLTEAAKEIEVERIKAE
pig.GBP-1.partial 101 ----PRG----------
chicken.GBP 440 KQRPDKGVRAEAVLKEFLREHEGLAQVLKATEVQLELAERQQEAAAAEAE
GBP-4 446 YREPRKGIQAEEVLQKYLKSKESVSHAILQTDQALTETEKKKKEAQVKAE
mouse.purine.nuc.BP 491 VAEKELELLRQRQKEQEQVMEAQERSFRENIAKLQEKMES---EKEMLLR
mu.GBP1 496 AAEAANRALAEMQKKHEMLMEQKEQSYQEHMKQLTEKMEQ---ERKELMA
rat.GBP.p67 498 TAEAANRELAEKQEKFELMMQQKEESYQEHVRQLTEKMKE---EQKKLIE
chicken.GBP 490 AARKATEAWREDQK----------RSMEEHKRQLEQWMKK---EKHTWEE
GBP-4 496 AEKAEAQRLAAIQRQNEQMMQERERLHQEQVRQMEIAKQNWLAEQQKMQE
mouse.purine.nuc.BP 538 EQEKMLEHKLKVQEELLIEGFREKSDMLKNEISHLREEMERTRRKPSLFG
mu.GBP1 543 EQQRIISLKLQEQERLLKQGFQNESLQLRQEIEKIK-NMPPPRS------
rat.GBP.p67 545 EQDNIIALKLREQEKFLREGYENESKKLLREIENMK-RRQSPGK------
chicken.GBP 527 ELNRMLEHHRKEYKALLQEGFRREAAAKEKQIRELQEEMRSCN-------
GBP-4 546 QQMQVFINCFISPLPVTMRVCSSGKEGEAARSCGSQ-QGVWSQK------
mouse.purine.nuc.BP 588 QILDTIGNAFIMILPGAGKLFGVGLKFLGSLSS
mu.GBP1 586 ----------CTIL----------
rat.GBP.p67 588 ----------CTIL----------
chicken.GBP 570 ----------CTVL----------
GBP-4 589 ----------VWV----------

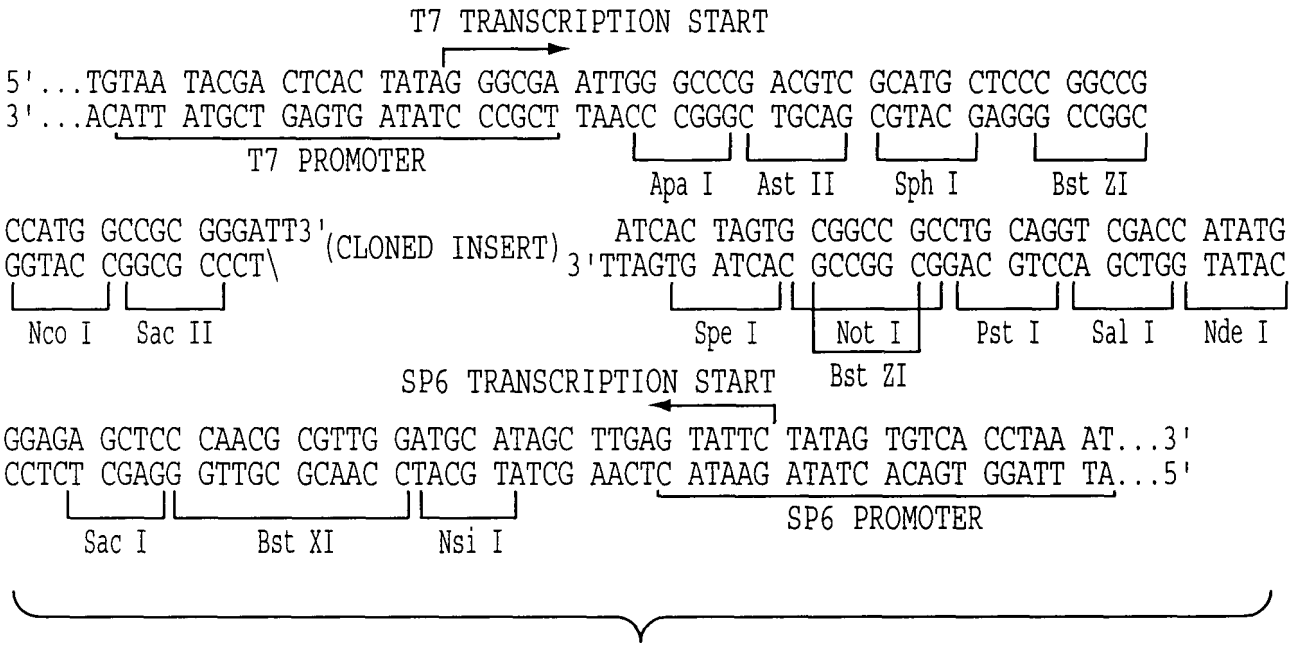
FIG. 3B

hGBP-4						
67	hGBP-1					
64	76	hGBP-2				
60	68	71	rGBP			
59	70	71	80	mGBP-1		
49	54	54	52	53	mPNBP	
37	41	41	41	39	41	cGBP

FIG. 4

cDNA SYNTHESIS PRIMER
Rsa I Hind III
5'-TTTTGTACAAGCTT30-3'
Srf I/Sma I
T7 PROMOTER
Not I
Rsa /2-site
ADAPTOR 1
5'-CTAATACGACTCACTATAGGGCTCGAGCGGCCGCCCGGGCAGGT-3'
3'-GGCCCGTCCA-5'
PCR PRIMER 1
NESTED PCR PRIMER 1
5'-CTAATACGACTCACTATAGGGC-3'
5'-TCGAGGGGCCGCCCGGGCAGGT-3'
Rsa I 1/2-site
ADAPTOR 2
5'-TGTAGCGTGAAGACGACAGAAAGGGCGTGGTGCGGAGGGCGGT-3'
3'-GCCTCCCGCCA-5'
PCR PRIMER 2
NESTED PCR PRIMER 2
5'-TGTAGCGTGAAGACGACAGAA-3'
5'-AGGGCGTGGTGCGGAGGGCGGT-3'
CONTROL PRIMERS: G3PDH5' PRIMER 5'-ACCACAGTCCATGCCATCAC-3'
G3PDH3' PRIMER 5'-TCCACCACCCTGTTGCTGTA-3'

FIG. 5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5'...TGTAA TACGA CTCAC TATAG GGCGA ATTGG GCCCG ACGTC GCATG CTCCC GGCCG
3'...ACATT ATGCT GAGTG ATATC CCGCT TAACC CGGGC TGCAG CGTAC GAGGG CCGGC
T7 PROMOTER
Apa I
Ast II
Sph I
Bst ZI
CCATG GCCGC GGGATT3'
GGTAC CGGCG CCCT\
(CLONED INSERT)
ATCAC TAGTG CGGCC GCCTG CAGGT CGACC ATATG
3'TTAGTG ATCAC GCCGG CGGAC GTCCA GCTGG TATAC
Nco I
Sac II
Spe I
Not I
Bst ZI
Pst I
Sal I
Nde I
SP6 TRANSCRIPTION START
GGAGA GCTCC CAACG CGTTG GATGC ATAGC TTGAG TATTC TATAG TGTCA CCTAA AT...3'
CCTCT CGAGG GTTGC GCAAC CTACG TATCG AACTC ATAAG ATATC ACAGT GGATT TA...5'
Sac I
Bst XI
Nsi I
SP6 PROMOTER

FIG. 6

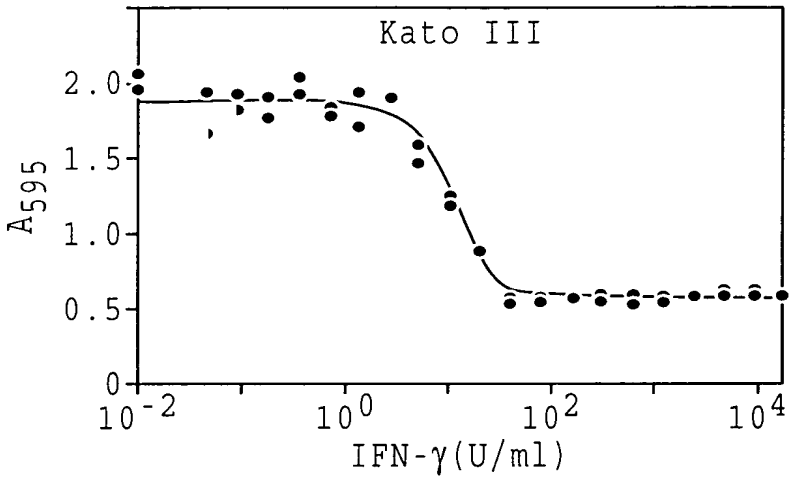

Kato III
2.0
1.5
1.0
0.5
0
A_{595}
10^{-2}
10^{0}
10^{2}
10^{4}
IFN-γ(U/ml)

FIG. 7A

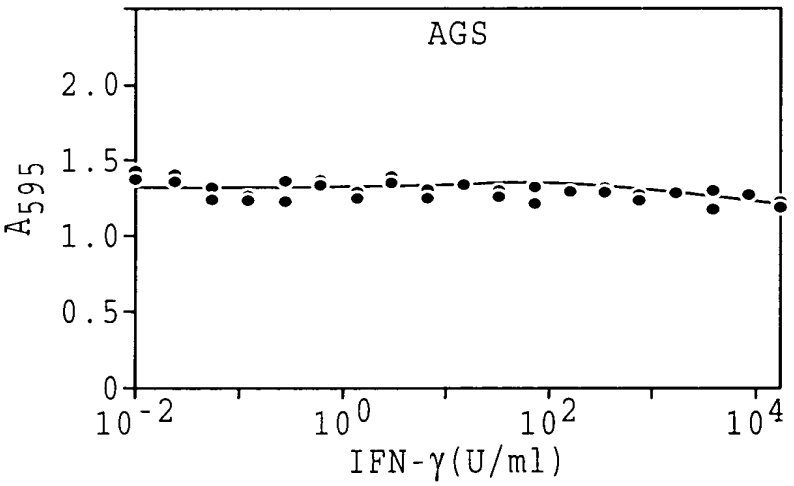
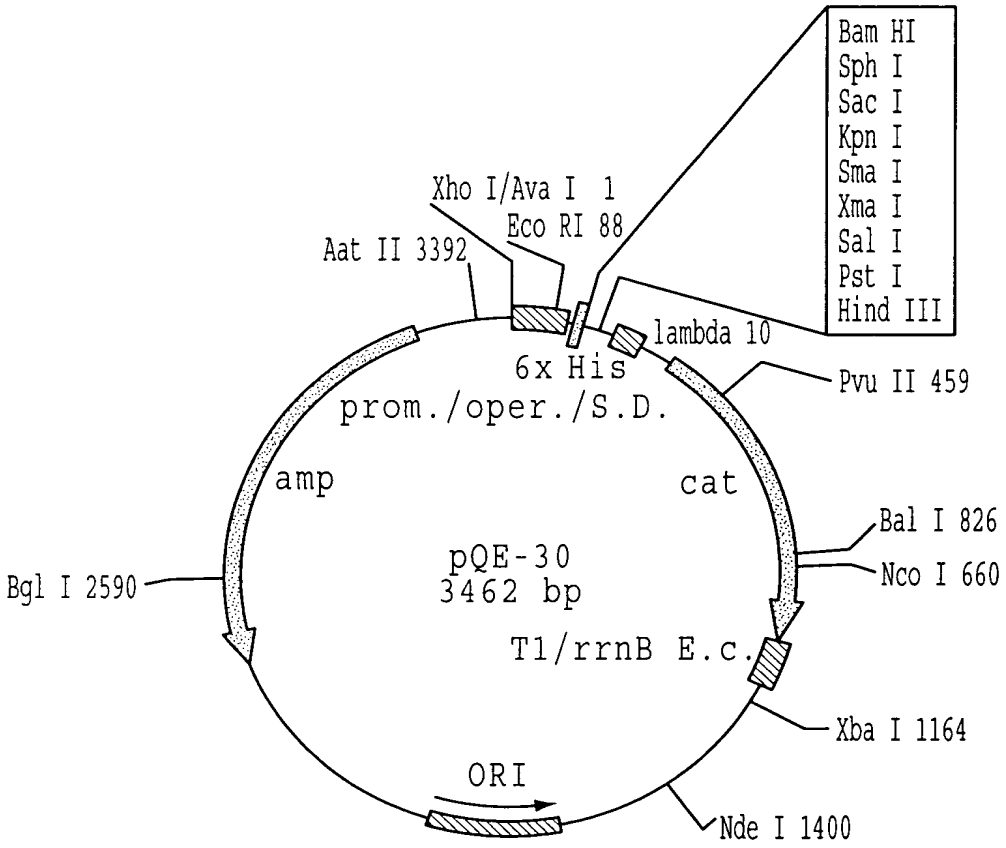

AGS
2.0
1.5
1.0
0.5
0
A_{595}
10^{-2}
10^{0}
10^{2}
10^{4}
IFN-γ(U/ml)

FIG. 7B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Sph I
Sac I
Kpn I
Sma I
Xma I
Sal I
Pst I
Hind III
Xho I/Ava I 1
Eco RI 88
Aat II 3392
lambda 10
6x His
prom./oper./S.D.
Pvu II 459
amp
cat
Bal I 826
Nco I 660
pQE-30
3462 bp
Bgl I 2590
T1/rrnB E.c.
Xba I 1164
ORI
Nde I 1400

FIG. 8